

Claims:

1. An odontological device for guiding the occlusion of an individual, said device comprising:

- 5 – a generally U-shaped arch made of flexible material and that has a lower surface on the lower jaw side and an upper surface on the upper jaw side, and in both of which there are concaves for receiving the individual's teeth, the bottoms of the concaves forming an isthmus which separates the concaves from one another,

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- the isthmus includes blanks intended for individual teeth and uniform, continuous recesses for at least two teeth to guide the teeth in the required direction, and
- the lower jaw side surface has a lower wing constricting the tongue at least
- 15 sideways, and it has been shaped to further placement of the device in the individual's mouth.

2. An odontological device according to Claim 1, wherein said recesses contain uniform compartments that begin from the second premolar and continue towards

20 the molars at least partly to the area where the second permanent molar will erupt.

3. An odontological device according to Claim 2, wherein the side walls of said uniform compartments are formed by outer and inner walls, respectively, which have essentially straight walls.

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4. An odontological device according to Claim 2 wherein said compartments are shaped like continuous troughs, and the troughs are open from the molar side end.

5. An odontological device according to claim 1, wherein said recesses contain

30 uniform recesses limited to the area of the front teeth, and the surface walls of the recesses are essentially smooth.

6. An odontological device according to claim 1, wherein said concaves have their own blanks for canine teeth and the first premolars.

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7. An odontological device according to claim 1, wherein said isthmus separating

the concaves is thicker at least in the area of the molars than in the area of the front teeth.

8. An odontological device according to Claim 7, wherein said isthmus thickness
5 changes stepwise at the point between the premolars.

9. An odontological device according to Claim 7 wherein said isthmus is essentially
even in such a way that its thickness in the narrower area is essentially in fixed
range of approximately 1 to 10mm and 3 - 13mm, respectively, in the thicker area.
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10. An odontological device according to claim 1, wherein the walls of the
concaves are formed by the outer walls on the labial side or on the buccal side,
respectively, and by the inner walls on the opposite sides of the concaves on the
lingual side, the inner wall on the lower jaw side surface being continued so that it
15 is at least essentially aligned downwards to the wall surface in such a way that it
extends lower than the corresponding outer wall to form said lower wing.

11. An odontological device according to Claim 10, wherein said lower wing has
been arranged to reach the immediate proximity of the base of the mouth cavity.
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12. An odontological device according to Claim 11, wherein said shape of the
lower wing, particularly in the molar area, follows essentially the shape of the
lower side jaw arch.

25 13. An odontological device according to claim 10, wherein the downwards
dimension of the mentioned lower wing has been reduced at the point of the
ligament of the tongue.

14. An odontological device according to Claim 13, wherein said lower wing
30 extends approximately at the point of the first molar to a distance of 14mm as a
maximum of the down side surface of said isthmus, in which case said distance is
approx. 3 to 6mm smaller in the area of the ligament of the tongue.

15. An odontological device according to claim 10, wherein the outer wall on the
35 upper jaw side surface has been at least partially continued upwards at least
essentially aligned upwards to the wall surface in such a way that it extends above

the gum line.

16. An odontological device according to Claim 15, wherein said upper side outer wall extends essentially above the gum line at least in the area of the first and
5 second tooth, and preferably also in the area of the third and fourth tooth.

17. An odontological device according to Claim 15, wherein said upper outer wall extends at its highest point to approx. 10 mm from the distance of the upper side surface of said isthmus.

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18. An odontological device according to claim 1, wherein when the upper side arch, measured essentially along the base of the arch and between the second and third tooth, is approx. 32 mm, the length of the compartment starting from the second premolar and terminating in an open end is 22 mm on the upper side and
15 24 mm on the lower side, and correspondingly, when the length of the mentioned arch is 37 mm, the length of the compartment is 24 mm on the upper side and 27 mm on the lower side.

19. An odontological series of devices, containing a series of essentially conformal devices of different sizes, wherein the devices correspond to an odontological
20 device according to Claim 1.

20. A series of devices according to Claim 19, wherein the upper side arch of a device in the series, measured along the base of the arch and between the second
25 and third tooth, is less than about 26mm, the maximum distance of the lower wing lower edge to the equivalent point on the surface of the isthmus between the masticating surfaces is approximately 8 to 10 mm, and when the mentioned arch is over 26 mm said maximum distance is about 14 mm.

21. An odontological device series according to Claim 19, wherein when the upper side arch of a device in the series, measured essentially along the base of the arch and between the second and third tooth, is approx. 32 mm, the length of the mentioned compartment starting from the second premolar and terminating in an open end is 22 mm on the upper side and 24 mm on the lower side, and
30 correspondingly, when the length of the mentioned arch is 37 mm, the length of the compartment is 24 mm on the upper side and 27 mm on the lower side.

22. A device series according to claim 19, wherein the smallest device in the series has the mentioned arch length of less than 26mm and the largest 36mm as a minimum, preferably at least of approx. 38mm.

5 23. A device series according to claim 19, wherein the length of the smallest device in the series, measured from the wall on the lingual side of the front teeth to the line connecting the open ends of the molar areas, is essentially less than 40 mm and the upper side front wall at least 5 mm high.

10 24. A method in orthodontics for selecting an occlusion guidance appliance device, according to which method

- at least one characteristic measurement is defined for an individual's teeth, and
 - based on this measurement an appropriate device is selected for that
- 15 individual,

comprising the steps of:

- measuring the length of the upper jaw side dental arch from the individual's teeth between the left and right hand side front and middle teeth or two middle teeth,
- 20 - choosing, based on the measurement without taking separately into consideration the developmental phase of the teeth, a suitable occlusion guidance appliance device from one of the occlusion guidance appliance device series according to one of Claims 19 to 23, which contains several essentially conformal and different-sized occlusion guidance appliance devices.

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25. A method according to Claim 24, wherein the measurement of the dental arch is taken from the anatomy along the outer surface and a device is selected based on the resulting measurement, the arch measurement of which is 1 – 2 mm smaller than the measurement according to the anatomy.